

What is claimed is:

Sub 17 1. A portable toy comprising a display unit and a casing surrounding said display unit, said display unit and said casing representing a form comprising a head and a body, said display unit functioning as at least means for presenting facial expressions of the form.

2. A portable information terminal comprising a display unit and a casing surrounding said display unit, said display unit and said casing representing a form comprising a head and a body, said display unit functioning as at least means for presenting facial expressions of the form.

3. A portable information terminal according to claim 2, further comprising image processing means for generating image data, wherein said display unit comprises a display screen for displaying an image based on image data generated by said image processing means.

4. A portable information terminal according to claim 3, further comprising:

facial expression selecting means for selecting one of a plurality of items of facial expression information;

said image processing means comprising facial expression display means for reading the facial expression information selected by said facial expression selecting means

and displaying a moving image representing a deformation from a present facial expression to a facial expression based on the read facial expression information according to a morphing technique.

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10 5. A portable information terminal according to claim 4, wherein said facial expression selecting means comprises means for randomly selecting one of the items of facial expression information at the timing of a predetermined time duration.

15 6. A portable information terminal according to claim 4, wherein said facial expression selecting means comprises means for selecting one of the items of facial expression information at the timing of a manual control input entered while the present facial expression is being displayed.

20 7. A portable information terminal according to claim 4, wherein said facial expression display means comprises means for, if facial expression information related to the read facial expression information is added, displaying a moving image representing a deformation from a facial expression based on the read facial expression information to a facial expression based on the related facial expression information according to a morphing technique.

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8. A portable information terminal according to claim

4, further comprising message sound/output means for, if message information is added to the facial expression information, reading a message represented by the message information, and outputting a voice sound of the message in substantial synchronism with the displaying of the facial expression by said facial expression display means.

9. A portable information terminal according to claim 4, wherein said facial expression display means comprises means for, if message information is added to the facial expression information and information indicative of displaying of a message is added, reading a message represented by the message information and displaying the message on the display screen.

10. A portable information terminal comprising:  
display means for displaying information depending on a program which is executed;

sound output means for outputting a sound of information depending on the program which is executed;

communication means for sending and receiving information; and

message information output means for outputting a sound of message information, of information received by said communication means, via said sound output means.

11. A portable information terminal according to claim

10, wherein said message information output means comprises:

reception data detecting means for determining whether information has been received via said communication means;

data reading means for, if information has been received via said communication means, reading the received information, and extracting and registering message information of the received information; and

message sound output means for outputting a sound of the registered message information via said sound output means.

12. A portable information terminal according to claim 10, wherein said display means comprises facial expression display means for reading facial expression information depending on said message information, from a plurality of items of facial expression information, and displaying a moving image representing a deformation from a present facial expression to a facial expression based on the read facial expression information according to a morphing technique, in substantial synchronism with the outputting of the sound of message information.

13. A portable information terminal having an interface for connection to a master unit having a function to execute a program, comprising:

illegal copying prevention means for periodically determining whether legitimate information has been downloaded

from the master unit or not, and if legitimate information has not been downloaded, making ineffective at least control inputs entered into the terminal.

5 14. A portable information terminal according to claim 13, wherein said illegal copying prevention means comprises means for making effective again control inputs entered into the terminal if legitimate information has been downloaded from the master unit after control inputs entered into the terminal have been made ineffective.

10 15. A portable information terminal according to claim 13, wherein said illegal copying prevention means comprises:  
download monitoring means for registering the year,  
15 month, and date of an instance of downloading of data; and  
periodic download determining means for periodically determining whether data has been downloaded or not.

20 16. A portable information terminal according to claim 15, wherein said download monitoring means comprises:  
preprocessing means for storing the present year,  
month, and date in a first memory area;  
download detecting means for detecting whether data has been downloaded or not;

25 ID determining means for determining whether an ID which has been downloaded is a predetermined ID or not; and  
registering means for setting a flag indicative of the

download if the downloaded ID is the predetermined ID and registering the present year, month, and date in a second memory area.

5           17. A portable information terminal according to claim 15, wherein said periodic download determining means comprises:

effective/ineffective determining means for determining whether the present year, month, and date stored in the first and second memory areas are effective or ineffective, and making at least control inputs ineffective if the stored present year, month, and date are ineffective;

elapsed time determining means for determining whether a predetermined period has elapsed or not on the basis of the present year, month, and date stored in the first and second memory areas; and

flag determining means for determining whether the flag has been set or not if the predetermined period has elapsed, making at least control inputs ineffective if the flag has not been set, and resetting the flag if the flag has been set.

18. An entertainment system comprising:  
an entertainment apparatus having a function to execute a program; and

a portable information terminal detachably connected to said entertainment apparatus and having an interface for be-

ing electrically connected to said entertainment apparatus;

said portable information terminal comprising a display unit and a casing surrounding said display unit, said display unit and said casing representing a form comprising a head and a body, said display unit functioning as at least means for presenting facial expressions of the form.

19. An entertainment system according to claim 18, wherein said portable information terminal and said entertainment apparatus have respective information transfer means for transferring information to each other.

20. An entertainment system according to claim 18, wherein said portable information terminal comprises image processing means for generating image data, said display unit comprising a display screen for displaying an image based on image data generated by said image processing means.

21. An entertainment system according to claim 20, wherein said portable information terminal comprises facial expression selecting means for selecting one of a plurality of items of facial expression information, said image processing means comprising facial expression display means for reading the facial expression information selected by said facial expression selecting means and displaying a moving image representing a deformation from a present facial ex-

pression to a facial expression based on the read facial expression information according to a morphing technique.

5           22. An entertainment system according to claim 21, wherein said facial expression selecting means comprises means for randomly selecting one of the items of facial expression information at the timing of a predetermined time duration.

10           23. An entertainment system according to claim 21, wherein said facial expression selecting means comprises means for selecting one of the items of facial expression information at the timing of a manual control input entered while the present facial expression is being displayed.

15           24. An entertainment system according to claim 21, wherein said facial expression display means comprises means for, if facial expression information related to the read facial expression information is added, displaying a moving  
20 image representing a deformation from a facial expression based on the read facial expression information to a facial expression based on the related facial expression information according to a morphing technique.

25           25. An entertainment system according to claim 21, wherein said portable information terminal comprises message sound output means for, if message information is added to



the facial expression information, reading a message represented by the message information, and outputting a voice sound of the message in substantial synchronism with the displaying of the facial expression by said facial expression display means.

26. An entertainment system according to claim 21, wherein said facial expression display means comprises means for, if message information is added to the facial expression information and information indicative of displaying of a message is added, reading a message represented by the message information and displaying the message on the display screen.

27. An entertainment system comprising:  
an entertainment apparatus having a function to execute a program; and

a portable information terminal detachably connected to said entertainment apparatus and having an interface for being electrically connected to said entertainment apparatus;

said portable information terminal comprising:

display means for displaying information depending on a program which is executed;

sound output means for outputting a sound of information depending on the program which is executed;

communication means for sending and receiving information; and

message information output means for outputting a sound of message information, of information received by said communication means, via said sound output means.

5           28. An entertainment system according to claim 27, wherein said message information output means comprises:

          reception data detecting means for determining whether information has been received via said communication means;

          data reading means for, if information has been received via said communication means, reading the received information, and extracting and registering message information of the received information; and

          message sound output means for outputting a sound of the registered message information via said sound output means.

20           29. An entertainment system according to claim 27, wherein said display means comprises facial expression display means for reading facial expression information depending on said message information, from a plurality of items of facial expression information, and displaying a moving image representing a deformation from a present facial expression to a facial expression based on the read facial expression information according to a morphing technique, in

25           substantial synchronism with the outputting of the sound of message information.

30. An entertainment system comprising:

an entertainment apparatus having a function to execute a program; and

a portable information terminal detachably connected to said entertainment apparatus and having an interface for being electrically connected to said entertainment apparatus;

said portable information terminal comprising:

illegal copying prevention means for periodically determining whether legitimate information has been downloaded from said entertainment apparatus or not, and if legitimate information has not been downloaded, making ineffective at least control inputs entered into said portable information terminal.

31. An entertainment system according to claim 30, wherein said illegal copying prevention means comprises means for making effective again control inputs entered into said portable information terminal if legitimate information has been downloaded from said entertainment apparatus after control inputs entered into said portable information terminal have been made ineffective.

32. An entertainment system according to claim 30, wherein said illegal copying prevention means comprises:  
download monitoring means for registering the year, month, and date of an instance of downloading of data; and  
periodic download determining means for periodically

determining whether data has been downloaded or not.

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33. An entertainment system according to claim 32,  
wherein said download monitoring means comprises:

5 preprocessing means for storing the present year,  
month, and date in a first memory area;

download detecting means for detecting whether data has  
been downloaded or not;

10 ID determining means for determining whether an ID  
which has been downloaded is a predetermined ID or not; and

15 registering means for setting a flag indicative of the  
download if the downloaded ID is the predetermined ID and  
registering the present year, month, and date in a second  
memory area.

34. An entertainment system according to claim 32,  
wherein said periodic download determining means comprises:

20 effective/ineffective determining means for determining  
whether the present year, month, and date stored in the fir-  
st and second memory areas are effective or ineffective, and  
making at least control inputs ineffective if the stored  
present year, month, and date are ineffective;

25 elapsed time determining means for determining whether  
a predetermined period has elapsed or not on the basis of  
the present year, month, and date stored in the first and  
second memory areas; and

flag determining means for determining whether the flag

has been set or not if the predetermined period has elapsed, making at least control inputs ineffective if the flag has not been set, and resetting the flag if the flag has been set.

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35. A recording medium storing a program comprising the steps of:

either randomly selecting one of a plurality of items of facial expression information at the timing of a predetermined time duration or selecting one of a plurality of items of facial expression information at the timing of a manual control input entered while a present facial expression is being displayed;

reading the selected facial expression information; and

displaying a moving image representing a deformation from the present facial expression to a facial expression based on the read facial expression information according to a morphing technique.

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36. A recording medium according to claim 35, wherein said step of displaying a moving image comprises the step of, if facial expression information related to the read facial expression information is added, displaying a moving image representing a deformation from a facial expression based on the read facial expression information to a facial expression based on the related facial expression information according to a morphing technique.

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37. A recording medium according to claim 35, wherein said program further comprises the steps of:

if message information is added to the facial expression information, reading a message represented by the message information, and outputting a voice sound of the message in substantial synchronism with the displaying of the facial expression.

38. A recording medium according to claim 35, wherein said step of displaying a moving image comprises the steps of, if message information is added to the facial expression information and information indicative of displaying of a message is added, reading a message represented by the message information and displaying the message.

39. A recording medium storing a program which can be executed by a portable information terminal having display means for displaying information depending on the program which is executed, sound output means for outputting a sound of information depending on the program which is executed, and communication means for sending and receiving information, said program comprising the step of:

outputting a sound of message information, of information received by said communication means, via said sound output means.

40. A recording medium according to claim 39, wherein

said step of outputting a sound of message information comprises the steps of:

determining whether information has been received via said communication means;

5 if information has been received via said communication means, reading the received information, and extracting and registering message information of the received information; and

10 outputting a sound of the registered message information via said sound output means.

41. A recording medium according to claim 39, wherein said program further comprises the steps of reading facial expression information depending on said message information, from a plurality of items of facial expression information, and displaying a moving image representing a deformation from a present facial expression to a facial expression based on the read facial expression information according to a morphing technique, in substantial synchronism with the outputting of the sound of message information.

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42. A recording medium storing a program which can be executed by a portable information terminal having an interface for connection to a master unit which has a function to execute the program, said program comprising the steps of:

25 periodically determining whether legitimate information has been downloaded from the master unit or not; and

if legitimate information has not been downloaded, making ineffective at least control inputs entered into the portable information terminal.

5           43. A recording medium according to claim 42, wherein said program further comprises the step of:

making effective again control inputs entered into the portable information terminal if legitimate information has been downloaded from the master unit after control inputs entered into the portable information terminal have been made ineffective.

10           44. A recording medium according to claim 42, wherein said program further comprises the steps of:

15           registering the year, month, and date of an instance of downloading of data; and

periodically determining whether data has been downloaded or not.

20           45. A recording medium according to claim 44, wherein said program further comprises the steps of:

storing the present year, month, and date in a first memory area;

detecting whether data has been downloaded or not;

25           determining whether an ID which has been downloaded is a predetermined ID or not; and

setting a flag indicative of the download if the down-



loaded ID is the predetermined ID and registering the present year, month, and date in a second memory area.

5 46. A recording medium according to claim 44, wherein said program further comprises the steps of:

determining whether the present year, month, and date stored in the first and second memory areas are effective or ineffective, and making at least control inputs ineffective if the stored present year, month, and date are ineffective;

10 determining whether a predetermined period has elapsed or not on the basis of the present year, month, and date stored in the first and second memory areas; and

15 determining whether the flag has been set or not if the predetermined period has elapsed, making at least control inputs ineffective if the flag has not been set, and resetting the flag if the flag has been set.